## REMARKS

The rejection of claims 6, 7, 9, and 10 under 35 USC 112, first paragraph, as failing to comply with the enablement requirement is respectfully traversed. Applicant has attached hereto a sequence listing for DP-7 and JH4. Also enclosed herewith are certificates indicating the deposit of hybridoma cell lines KCTC 10198BP and KCTC 10199BP.

KCTC 10198BP is a hybridoma cell comprising pHuKR127HC vector, and KCTC 10199BP is a hybridoma cell comprising pHuKR127KC vector. Each vector comprises modified DP7-JH4 and KPK12-JK4, respectively. Moreover, in the last lines of Fig. 2b and Fig. 4b in the specification, JH4 of DP7-JH4 and JK4 of DPK12-JK4, are indicated respectively.

The receipt for the deposit for microorganisms KCTC 10198BP and KCTC 10199BP substantiates the hybridoma cell lines for producing the claimed constructs. As indicated above, each vector comprises a modified BP7-JH4 and BP12-JK4. Thus, a skilled artisan from the publically available sequences and from the disclosures of DP7, JH4, DPK12 and NK, would clearly be enabled to make and use the claimed antibodies. Accordingly, applicant believes the rejection of claims 6, 7, 9 and 12 for lack of enablement under 35 USC 112, first paragraph, should be withdrawn.

The rejection of claim 2 under 35 USC 102(b) as being anticipated by Leong

et al (Cytokine, November 2001, Vol. 16, p. 106-119) is respectfully traversed.

Claim 2 has been modified to limit the claim to a process for preparing a humanized antibody consistent of the steps of (a) and (b) and in that order respectively. It should be noted that step (b) of the present invention is not a process for grafting CDR, but that for grafting SDR. Accordingly, the statement of the Examiner on page 5 of the office Action alleging that the present method steps include (a) performing alanine scanning mutagenesis to optimize the affinity of the murine antibody and (b) grafting the murine CFRs onto the human antibody is correct. As stated above, step (b) of present invention is not a process for grafting CDR but that for grafting SDR. Step (a) of the present invention necessarily proceeds step (b) because step (b) is a step for grafting SDR which are amino acids selected from step (a). Therefore, claim 2 of the present application is novel in view of the fact that step (b) must necessarily follow step (a) and that only SDR among CDR is grafted. The purpose for humanized antibodies in the present invention is for minimizing murine derived sequences. Further differences between the present invention and Leong et al are shown in the following table:

| | Leong et al | Present invention |
|---|---|---|
| **Difference of humanized antibody** | | |
| Where to graft antibody from murine antibody | Whole CDR-grafting | **Only** SDR-grafting |
| HAMA response | No change (because of whole CDR grafting) | Decreasing HAMA response (because of **SDR** grafting only) |
| **Difference of alanine scanning mutagenesis'** | | |
| Alanine scanning candidates | Based on 3-dimensional structure | All amino acid among CDR region, respectively |
| A standard for determining a specific region | region to increase affinity | region to sharply decrease affinity |
| Purpose to perform an Alanine scanning mutagenesis | For changing an amino acid to another amino acid which has a higher affinity to murine CDR | For substituting for an amino acid a murine sequence from human CDR |

Clearly, the steps of the present method do not correspond to the method steps in Leong.

The amendment of claim 2 limits the process solely to grafting SDR. Accordingly, the rejection of claim 2 under 35 USC 102(b) should be withdrawn.

The rejection of claim 3 under 35 USC 103(a) as being obvious over Maeng et al (Virology, 2000 Vol. 270, p. 9-16) in view of Leong et al is respectfully traversed.

Claim 3 is a dependent claim which depends from claim 2. As explained above, claim 2 has the novel step of grafting only SDR among CDR. This is not taught or suggested in Leong et al or Maeng et al. Accordingly, claim 3 is clearly patentable over the teaching of Leong et al taken alone or in combination with Maeng et al.

Applicant acknowledges that claims 4, 5 and 8 were considered allowable if rewritten in independent form to include all of the limitations of the base claim from which they depend and any intervening claims. Since claims 4, 5 and 8 depend from claim 3, which applicant believes is clearly patentable, claims 4, 5 and 8 are now believed to be in condition for allowance.

Claims 6, 7, 9 and 10 are also dependent claims which depend from claim 3 and are therefore believed patentable for the same reasons as given above.

Reconsideration and allowance of claims 2-10 is respectfully solicited.

Respectfully submitted,

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**CERTIFICATE OF TRANSMISSION**

I hereby certify that this Amendment is being sent to the U.S. Patent Office via EFS-Web to the Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450 on February 17, 2009.

By_____
L. Quagliariello

## <<Sequences for DP7 and JH4>>

<210> 1
<211> 80
<212> PRT
<213> Homo sapiens

<220>
<221> DP7

<400> 1

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly | Ala | Ser | Val | Lys | Val |
| | | | | 5 | | | | | 10 | | | | | 15 | | | | | 20 |
| Ser | Cys | Lys | Ala | Ser | Gly | Tyr | Thr | Phe | Thr | Trp | Val | Arg | Gln | Ala | Pro | Gly | Gln | Gly | Leu |
| | | | | 25 | | | | | 30 | | | | | 35 | | | | | 40 |
| Glu | Trp | Met | Gly | Lys | Phe | Gln | Gly | Arg | Val | Thr | Met | Thr | Arg | Asp | Thr | Ser | Thr | Ser | Thr |
| | | | | 45 | | | | | 50 | | | | | 55 | | | | | 60 |
| Val | Tyr | Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | Ala | Arg |
| | | | | 65 | | | | | 70 | | | | | 75 | | | | | 80 |

<210> 2
<211> 11
<212> PRT
<213> Homo sapiens

<220>
<221> JH4

<400> 2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Trp | Gly | Gln | Gly | Thr | Leu | Val | Thr | Val | Ser | Ser |
| | | | | 5 | | | | | 10 | |

BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSE OF PATENT PROCEDURE

INTERNATIONAL FORM

# RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT

issued pursuant to Rule 7.1

TO : HONG, Hyo Jeong
Clover Apt. 117-201, Dunsan-dong, Seo-ku, Taejon 302-772,
Republic of Korea

| I. IDENTIFICATION OF THE MICROORGANISM | |
|---|---|
| Identification reference given by the DEPOSITOR:<br><br>*Escherichia coli*<br>DH5α/pdCMV-dhfrC-HuKR127 | Accession number given by the INTERNATIONAL DEPOSITARY AUTHORITY:<br><br>KCTC 10198BP |

II. SCIENTIFIC DESCRIPTION AND/OR PROPOSED TAXONOMIC DESIGNATION

The microorganism identified under I above was accompanied by:
[ X ] a scientific description
[ ] a proposed taxonomic designation
(Mark with a cross where applicable)

III. RECEIPT AND ACCEPTANCE

This International Depositary Authority accepts the microorganism identified under I above, which was received by it on **March 13 2002.**

IV. RECEIPT OF REQUEST FOR CONVERSION

The microorganism identified under I above was received by this International Depositary Authority on and a request to convert the original deposit to a deposit under the Budapest Treaty was received by it on

V. INTERNATIONAL DEPOSITARY AUTHORITY

| Name: Korean Collection for Type Cultures<br><br>Address: Korea Research Institute of Bioscience and Biotechnology (KRIBB)<br>#52, Oun-dong, Yusong-ku,<br>Taejon 305-333,<br>Republic of Korea | Signature(s) of person(s) having the power to represent the International Depositary Authority of authorized official(s):<br><br>Bae K. S.<br><br>BAE, Kyung Sook, Director<br>Date: **March 16 2002** |
|---|---|

BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSE OF PATENT PROCEDURE

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Republic of Korea

| I. IDENTIFICATION OF THE MICROORGANISM | |
|---|---|
| Identification reference given by the DEPOSITOR:<br><br>**CHO/BmKR127**<br>**(CHO cell line)** | Accession number given by the INTERNATIONAL DEPOSITARY AUTHORITY:<br><br>**KCTC 10193BP** |

**II. SCIENTIFIC DESCRIPTION AND/OR PROPOSED TAXONOMIC DESIGNATION**

The microorganism identified under I above was accompanied by:
[ x ] a scientific description
[ ] a proposed taxonomic designation
(Mark with a cross where applicable)

**III. RECEIPT AND ACCEPTANCE**

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|---|---|
| Name: Korean Collection for Type Cultures<br><br>Address: Korea Research Institute of Bioscience and Biotechnology (KRIBB)<br>#52, Oun-dong, Yusong-ku,<br>Taejon 305-333,<br>Republic of Korea | Signature(s) of person(s) having the power to represent the International Depositary Authority of authorized official(s):<br><br>Bae K.S.<br><br>BAE, Kyung Sook, Director<br>Date: **March 16 2002** |

Form BP/4 (KCTC Form 17)

sole page